

Mint of the United States at Philadelphia,

MELTING AND REFINING DEPARTMENT,

Philadelphia, 14th October 1882

Hon. A. Loudon Snowden,
Superintendent.

Sir,

Having read the letter of Mrⁿ C. W. Brown of this City, in relation to ^{the} rejection of the crucibles of the Jos. Dixon Crucible Co. of Jersey City, N. J., I find that some of the views he expresses, and of the conclusions at which he has arrived, are based on a misunderstanding, or imperfect knowledge of facts, as I can readily show.

1. The only question for consideration is the valuation of the Dixon Crucible in this Mint for melting gold and silver. Let us throw aside other questions having no bearing on this one issue.

2. We have nothing to do with the use of crucibles for melting, steel, brass, &c. because the modes

modes of melting and fluxing differ from those employed on Gold and Silver.

3. We have nothing to do with the use of crucibles by other departments of the Government, unless used for melting Gold and Silver.

4. We have very little to do with the use of crucibles for melting gold and silver by other branches of the Mint Service, except to note that their individual experience agrees ^{with} or differs from ours.

This is a point of more importance than one unskilled in metallurgy can understand, that different melters operate so differently with the same materials, and the same crucibles, and fuel, as to reach differing results of melting, and to form different opinions on the same crucible. If this were not so, the inevitable result would be, that some one single crucible-maker would absorb the whole business of crucible-making for the whole country, for melting Gold and Silver. The same result would follow

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follow in melting steel or brass; one establishment would absorb the business of making all the steel pots in the U. States, &c).

Because such a state of crucible-making does not exist, but the business is divided among many makers, and because melters will attend closely to their personal interests, it follows that the individual experience of the melter is the basis and the only basis for the valuation of the crucible he employs.

5. It follows that the individual experience of our melters has determined the relative value of crucibles of different make. It has not determined which was the best crucible, but which was the best crucible for melting gold & silver by their methods of melting. This experience, the result of long and frequent trials, has led us to give a decided preference

preference to the crucibles made by Robert Taylor & Co. (now John A. Taylor).

6. Mr. G. W. Brown quotes my letter to the Dixon Crucible Co. in 1876, giving the highest approval to their crucible, as the result of my trying it. That experiment was made at their request, and the result given to them fairly, as experience or trial showed the Co. entitled to it. I am not disposed in the slightest degree to go behind that verdict; But the inference drawn from it by Mr. Brown is not sound, for it was an experiment on one or two crucibles, and such experiment, ~~altho~~ eminently successful, would not justify the conclusion that all the Dixon Crucibles proved to be of the best character.

7. Because so many crucible makers induced me to make trial of their crucibles, and because every such experiment is attended with risk of loss of bullion by the U. S. Government, -- I requested the then ~~Direc~~ Superintendent of the Mint, ex Govⁿ James Pollock

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Pollock, in 1877-8 to permit me to make a crucial test, if possible, of the relative value of the crucibles for melting Gold & Silver, by trying on a working scale those made by the different firms, who had supplied us. The result is given in a letter ^{to} Govⁿ Pollock of 11th Nov. 1878, of which letter M^r E. W. Brown appears to be entirely ignorant.

8. The above trial, carried on for about one year, seemed to warrant the conclusion ^{that} the Pots of Robert Taylor & Co. were the best in constant use, and there-fore warranted us in concluding that we ought not to use any other crucibles, at this Mint, i.e. under similar conditions of price, &c).

9. I regret that M^r Brown was entirely mis-informed, and therefore made an incorrect assertion, when he stated in his letter (page 5) that
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"Dixon crucibles were uniformly used by Phila-
"delphia, and all the branches (of the Mint) in pref-
"erence to all other brands". Some of the facts are these:
33 years ago we used the crucibles made in Taunton
Mass, and some of those made by M^r Jos. Dixon in
Jersey City. Soon after, about 30 years since, we
employed those made by Gautier in Jersey City, and
preferring them to the others, used them almost ex-
clusively for many years. As soon as the establish-
ments in Philad^a made crucibles equal to Gautier,
we divided the business between them and Gautier,
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Philad^a. The Dixon Co. complaining during the
war that we neglected them, we gave them a large
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formly good, we obtained our supply after that
chiefly from Philad^a makers, until Taylor's cruci-
bles appearing to be best in the long run, we al-
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most confined ourselves to their use.

10. You will necessarily infer from all that I have stated, that I do not condemn the Dixon Crucibles, but on the contrary have praised them, as in truth was due to their quality, and was a reminder of the enterprise & skill with which Mr Dixon led the way in this manufacture a half century since; but I am obliged to conclude that in our experience at present, these crucibles are not as uniformly suited to our object and method of melting Gold and Silver as those of John A. Taylor.

11. Because our preference of Taylor's crucibles resulted chiefly from exhaustive experiments made during the whole year 1878, on 100 crucibles from each of the five large crucible-makers, Dixon, Taylor, Gautier, Wile, and Ross, — and because
experimental

experimental trials in melting gold and silver are always attended by a slight loss of bullion, and by the risk of greater loss to the Government, — therefore I deem it to be the most prudent course, I might say the imperative duty, of the Mint, to avoid continually experimenting on crucibles, but to employ that make, which long experience in this Mint proves to be the most uniformly reliable for excellence.

Further, because trials of a single crucible cannot lead to reliable conclusions respecting the relative value of crucibles from different makers, — and because keeping a stock of crucibles on hand in the constantly dry air of our melting rooms tends rather to improve their quality, — and because the orders of the Government to us for coin are often sudden and large, — therefore I think that the interests of the Government are best consulted by keeping a large stock of those crucibles, which are found to be most reliable, constantly on hand.

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Respectfully submitted

L C Booth

M. & R

Hon. A. Loudon Snowden

Superintendent

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Mint of the United States at Philadelphia,


MELTING AND REFINING DEPARTMENT,

Oct 4, 1882

Jas. Booth
Melter and Refiner.

History of the use
of Crucibles in the
Mint; & reasons
for preferring the
Taylor Crucibles,
(7 Philadelphia)

(See No. 1853) $\frac{2}{12}$
Note 11/78

No. of Enclosures, 

Recd Oct 6/82

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Melting and Refining Department,
Philadelphia,
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